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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/669,858	09/24/2003	Kurt A. Schroder	NTI1002US	4398

7590

06/14/2005

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EXAMINER

HOANG, TU BA

ART UNIT	PAPER NUMBER
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3742

DATE MAILED: 06/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/669,858

Applicant(s)

SCHRODER ET AL.

Examiner

Tu Ba Hoang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 April 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-6, 10-17 and 19-26 is/are allowed.
- 6) ☒ Claim(s) 1, 7-9 and 18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 April 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

Response to Amendment

Applicant's amendments/arguments filed April 13, 2005 have been fully considered but they are not persuasive as for the following reasons:

Drawings

The drawings were received on April 13, 2005. These drawings are approved by the Examiner.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1, 7-9, and 18 are rejected under 35 U.S.C. 102(a and e) as being anticipated by Boulos et al (US 2003/0143153). Boulos et al shows a nanopowder synthesis system and method thereof for substantially increasing production rates of nanopowder (or increased yields) in which at least one member of precursor material is immersed in a gaseous atmosphere 16 of one of a reaction gas, a quenching gas, and a combination thereof (i.e., titanium tetrachloride, page 3, paragraph [0059]), a high magnetic field (i.e., solenoid coil or magnet 18) is applied to the precursor material in an area of plasma interaction with the at least one member for generating high magnetic field and plasma, wherein the plasma that interacts with the member and the gaseous atmosphere is formed to produce the nanopowder (page 4, paragraph [0061]).

Claims 2-6, 10-17, and 19-26 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: the prior art of record does not show or fairly suggest the use of a pair of ablative electrodes of precursor material aligned in opposing relation from one to another, whereby a high magnetic field is applied to the electrodes in near proximity to area of plasma interaction with the pair of electrodes (i.e., surrounding opposing tips of the pair of electrodes).

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The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

REMARK

In response to applicant's argument regarding the rejection of claims 1, 7-9, and 18 under 35 USC 102 (a and e) based on the US patent 2003/014313 to Boulos et al, as the Examiner suggested that Boulos et al shows the claimed application of high magnetic field by pointing to the use of induction coil 18, while as expressly defined in the application, "high magnetic field" means a magnetic field in the range of 0.05 or more Tesla, and thus the Examiner's suggestion is in error because the induction coil 18 does not create a high magnetic field and a person of ordinary skill in the art of the application would immediately recognize any magnetic field created by the induction coil 18 would be, at best negligible, and certainly magnitudes less than 0.5 Tesla. Rather than applying a high magnetic field, the high frequency electric current in the induction coil 18 is used to create a plasma of gas or gases in the mixing chamber to ionize the gas and produce and sustain the plasma and then conclude, there is no disclosure or teaching in Boulos et al of any application of a high magnetic field (emphasis added). Applicants' argument does not convince the Examiner that "high frequency electric current" induction coil 18 of Boulos et al does not create such "high magnetic field" because as noted at column 4, paragraph [0061], Boulos et al has disclosed "...gas which will ionize when subject to the high frequency electromagnetic field...", therefore, the Examiner's position is that with "high frequency current", the coil of Boulos et al is capable of generating high magnetic field and one of ordinary skill in the art would recognize that Boulos et al has disclosed there is at least such high magnetic field is generated from the high frequency current coil 18. Perhaps such the high magnetic field of the coil 18 would not defined within the same range as the application disclosed, it is still considered a high magnetic field within the teaching of Boulos et al. Thus, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "high magnetic field" means **a magnetic field in the range of 0.05 or more Tesla**) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Moreover, Applicants have indicated that the Examiner failed to differentiate between claims 1 and 7 as Bouslos et al does not teach or suggest "power means, in electrical connection with the member of precursor material and the means for applying the magnetic field" recited in claim 7. The examiner disagrees because as further noted in the paragraph [0061] set forth above, Boulos et al has also disclosed that the induction 18 is supplied with a high frequency **current** which is the equivalence of "a power means", in electrical connection with the at least one member of precursor (i.e., as the coil 18 in contact with the ionized gases) and the means for applying a high magnetic field (i.e., the field generated by the coil 18)".

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Regarding applicants' argument that there is no disclosure or even suggestion of "applying a high powered electrical discharge arc" recited in claim 8. The examiner position is that part of ionized plasma gases was the equivalence of such high powered electrical discharge arc.

Regarding the "means for applying a coating precursor material to the nanopower to reduce nanoparticle agglomeration" recited in claim 9, the examiner position is that as such the member of precursor material is immersed in a gaseous atmosphere 16 of one of a reaction gas, a quenching gas, and a combination thereof as indicated in paragraph [0059] of Boulos et al, such gaseous atmosphere 16 would be considered as "means for applying a coating precursor material" recited in claim 9.

Regarding claim 18, Applicants argued that Boulos et al makes no mention of a precursor material for ablation in producing a plasma, a solenoid magnet...for applying a high magnetic field, and a power means in electrical connection with as recited in claim 18. The Examiner position is that Boulos et al in fact discloses the precursor material such as titanium tetrachloride in paragraph [0061], the induction coil 18 in the form of a solenoidal shape for applying high electromagnetic field is an equivalence with the claimed solenoid magnet since they are both have the same operational and structural characteristics, and the power means recited in claim 18 is the same as the high frequency current previously described above in the same manner as noted for claim 7.

Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

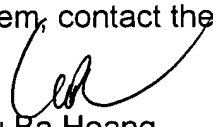
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tu Ba Hoang whose telephone number is (571) 272-4780. The examiner can normally be reached on Mon-fri from 8:30AM to 6:00PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on (571) 272-4777. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tu Ba Hoang
Primary Examiner
Art Unit 3742

June 07, 2005